

*Shaw, Cecilia has some comment on
1st draft. Indicated to address
her comments all 8/8/97*

Site:	<u>Martha Rose</u>
ID #:	<u>MOD980633069</u>
Break:	<u>6.1</u>
Other:	<u>410</u>

MEMORANDUM

Sup 2

SUBJECT: Martha C. Rose Site
Risk-Related Need for Continued Ground Water Monitoring

FROM: Dave Crawford
Risk Assessor, SACR/SUPR

Steve Kinser
Remedial Project Manager, MOKS/SUPR

Dave Monroe, our toxicologist, has not been available to review this matter as you requested. Therefore, I have reviewed the relevant documents. At issue is whether or not the ground water monitoring required under the Consent Decree needs to be continued by the responsible parties because of potential risk to human health. The State of Missouri, through both its Health Department (MDOH) and Department of Natural Resources (MDNR) has vigorously opposed any discontinuation of this monitoring.

In order to assess those human health exposure pathways which may currently or in the future be complete, I reviewed the Endangerment Assessment, Part V of the February 1990 Remedial Investigation.

It should be noted that this is now a somewhat dated document, approved in 1990. As such, there may be some discrepancies when this document is compared to our current understanding and application of the relevant risk assessment guidance. (For example, risk is calculated based upon "indicator chemicals", not all chemicals which represented releases from the site). Nonetheless, the document probably formed a sufficient basis to conclude in 1990 that the risk for reasonable maximum exposures to the contamination at the site exceeded the thresholds identified in the National Contingency Plan (NCP), and that remedial actions were warranted for this site at that time.

In order for there to be risk to human health from a hazardous substance release there must be potential exposure. Therefore, even though there may still be some ground water contamination at the site, other factors may preclude the potential for human exposure, such as:

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SUPR:SACR "ROSE" RISK#5



40026661
SUPERFUND RECORDS

-Currently there are no drinking water wells at or near the site. Does the aquifer, or hydrologic unit, beneath the site yield enough water to support the theoretical use of a water well as a private, nonpublic, source of drinking water in the future? 150 galls per day per person is a reasonable estimate on the quantity of water used in the United States. This includes not only drinking, but all other household uses of water.

Few people would build a home or complete a drinking water well to serve only one person. Two people is a reasonable minimum on how many people might be served by even the smallest private water well, which is a minimum of 300 gallons per day per well.

I looked for a reference for information about the minimum yield of private drinking water wells and found a reference on page 458 of "Groundwater and Wells, Second Edition", Fletcher G. Driscoll, which indicates that 30 gallons per minute (gpm) is a reasonable minimum for yield. Boreholes or wells with less yield would seldom be completed as a private water supply well, unless the home were provided with a water holding tank. Few homes have water holding tanks allowing them to use a well with a yield of less than 30 gpm as a source of drinking water.

-Is the groundwater of acceptable quality, if not contaminated by the site, to be used for drinking? Some groundwater is too salty, contains too many solids or too much turbidity, or contains bacteriological contamination, which would preclude its use as a source for drinking water.

-You reported that the city of Holden is establishing an ordinance that would prevent the use of groundwater at the former Martha C. Rose facility, for drinking. If enforced, such an ordinance would also prevent any human exposure to contaminated groundwater.

In summary, if groundwater cannot be used for drinking or other household uses, for any of the above reasons, or because of other reasons which I may not have thought of, then there would be no human exposure (including no ingestion, no inhalation and no dermal absorption) of contaminants in the groundwater. The issues of yield and water quality as they impact whether groundwater can be used as a water supply source relate more to hydrology than to toxicology. There are several options available to you if you need documentation as to whether the groundwater beneath this site is a potentially usable source of water, including EPA contractors and our interagency agreement (IAG) with the U.S. Geological Survey. Cecilia is the Project Officer on that IAG if you need to access it.

Please contact me at 7702 if you have any questions. This discussion has been limited to potential human health exposures and risks. I do not coordinate ecological risk assessments. You might contact Steve Wharton in the FFSE Branch who coordinates ecological assessments if you need to determine whether the release of contaminated ground water from this site may pose ecological risk.

cc: Dave Monroe SACR

Cecilia Tapia SACR